

## Department of Energy

## § 431.95

manufactured by one manufacturer within a single equipment class, having the same or comparably performing compressor(s), heat exchangers, and air moving system(s) that have a common “nominal” cooling capacity.

(3) *Single package vertical units* means all units manufactured by one manufacturer within a single equipment class, having the same primary energy source (e.g., electric or gas), and which have the same or comparably performing compressor(s), heat exchangers, and air moving system(s) that have a rated cooling capacity within 1500 Btu/h of one another.

(4) *Computer room air conditioners* means all units manufactured by one manufacturer within a single equipment class, having the same primary energy source (e.g., electric or gas), and which have the same or comparably performing compressor(s), heat exchangers, and air moving system(s) that have a common “nominal” cooling capacity.

(5) *Variable refrigerant flow systems* means all units manufactured by one manufacturer within a single equipment class, having the same primary energy source (e.g., electric or gas), and which have the same or comparably performing compressor(s) that have a common “nominal” cooling capacity and the same heat rejection medium (e.g., air or water) (includes VRF water source heat pumps).

(6) *Small, large, and very large water source heat pump* means all units manufactured by one manufacturer within a single equipment class, having the same primary energy source (e.g., electric or gas), and which have the same or comparable compressors, same or comparable heat exchangers, and same or comparable “nominal” capacity.

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### TEST PROCEDURES

#### § 431.95 Materials incorporated by reference.

(a) *General.* DOE incorporates by reference the following test procedures into subpart F of part 431. The materials listed have been approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Any subsequent amendment to the listed materials by the standard-setting organization will not affect the DOE regulations unless and until such regulations are amended by DOE. Materials are incorporated as they exist on the date of the approval, and a notice of any changes in the materials will be published in the FEDERAL REGISTER. All approved materials

are available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html). Also, this material is available for inspection at U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Program, 6th Floor, 950 L'Enfant Plaza SW., Washington, DC 20024, (202) 586-2945, or go to: [http://www1.eere.energy.gov/buildings/appliance\\_standards/](http://www1.eere.energy.gov/buildings/appliance_standards/). The referenced test procedure standards are listed below by relevant standard-setting organization, along with information on how to obtain copies from those sources.

(b) *AHRI.* Air-Conditioning, Heating, and Refrigeration Institute, 2111 Wilson Blvd., Suite 500, Arlington, VA 22201, (703) 524-8800, or go to: <http://www.ahrinet.org>.

(1) ARI Standard 210/240-2003, “2003 Standard for Unitary Air-Conditioning & Air-Source Heat Pump Equipment,” published in 2003 (AHRI 210/240-2003), IBR approved for § 431.96.

(2) ANSI/AHRI Standard 210/240-2008, “2008 Standard for Performance Rating of Unitary Air-Conditioning & Air-Source Heat Pump Equipment,” approved by ANSI on October 27, 2011 and updated by addendum 1 in June 2011 and addendum 2 in March 2012 (AHRI 210/240-2008), IBR approved for § 431.96.

(3) ARI Standard 310/380-2004, “Standard for Packaged Terminal Air-Conditioners and Heat Pumps,” published September 2004 (AHRI 310/380-2004), IBR approved for § 431.96.

(4) ARI Standard 340/360-2004, “2004 Standard for Performance Rating of Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment,” published in 2004 (AHRI 340/360-2004), IBR approved for § 431.96.

(5) ANSI/AHRI Standard 340/360-2007, “2007 Standard for Performance Rating of Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment,” approved by ANSI on October 27, 2011 and updated by addendum 1 in December 2010 and addendum 2 in June 2011 (AHRI 340/360-2007), IBR approved for § 431.96.

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(6) ANSI/AHRI Standard 390–2003, “2003 Standard for Performance Rating of Single Package Vertical Air-Conditioners and Heat Pumps,” dated 2003, (AHRI 390–2003), IBR approved for § 431.96.

(7) ANSI/AHRI Standard 1230–2010, “2010 Standard for Performance Rating of Variable Refrigerant Flow (VRF) Multi-Split Air-Conditioning and Heat Pump Equipment,” approved August 2, 2010 and updated by addendum 1 in March 2011 (AHRI 1230–2010), IBR approved for § 431.96.

(8) [Reserved]

(c) ASHRAE. American Society of Heating, Refrigerating and Air-Conditioning Engineers, 1791 Tullie Circle, NE., Atlanta, Georgia 30329, (404) 636–8400, or go to: <http://www.ashrae.org>.

(1) ASHRAE Standard 127–2007, “Method of Testing for Rating Computer and Data Processing Room Unitary Air Conditioners,” approved on June 28, 2007, (ASHRAE 127–2007), IBR approved for § 431.96.

(2) [Reserved]

(d) ISO. International Organization for Standardization, 1, ch. De la Voie-Creuse, Case Postale 56, CH–1211 Geneva 20, Switzerland, +41 22 749 01 11 or go to: <http://www.iso.ch/>.

(1) ISO Standard 13256–1, “Water-source heat pumps—Testing and rating

for performance—Part 1: Water-to-air and brine-to-air heat pumps,” approved 1998, IBR approved for § 431.96.

(2) [Reserved]

[77 FR 28989, May 16, 2012]

### § 431.96 Uniform test method for the measurement of energy efficiency of commercial air conditioners and heat pumps.

(a) *Scope*. This section contains test procedures for measuring, pursuant to EPCA, the energy efficiency of any small, large, or very large commercial package air-conditioning and heating equipment, packaged terminal air conditioners and packaged terminal heat pumps, computer room air conditioners, variable refrigerant flow systems, and single package vertical air conditioners and single package vertical heat pumps.

(b) *Testing and calculations*. (1) Determine the energy efficiency of each covered product by conducting the test procedure(s) listed in the rightmost column of Table 1 of this section, that apply to the energy efficiency descriptor for that product, category, and cooling capacity, until compliance with this test procedure version is no longer required per the date shown in the 5th most column from the left of Table 1 of this section.

TABLE 1 TO § 431.96—TEST PROCEDURES FOR COMMERCIAL AIR CONDITIONERS AND HEAT PUMPS

Equipment type	Category	Cooling capacity	Energy efficiency descriptor	Test procedure required for compliance until	Use tests, conditions, and procedures <sup>1</sup> in
Small Commercial Packaged Air-Conditioning and Heating Equipment.	Air-Cooled, 3-Phase, AC and HP.	<65,000 Btu/h ..... ≥65,000 Btu/h and <135,000 Btu/h.	SEER and HSPF EER and COP .....	May 13, 2013 ... May 13, 2013 ...	ARI 210/240–2003. ARI 340/360–2004.
	Air-Cooled AC and HP.				
	Water-Cooled and Evaporatively-Cooled AC.	<65,000 Btu/h ..... ≥65,000 Btu/h and <135,000 Btu/h.	EER ..... EER .....	May 13, 2013 ... May 13, 2013 ...	ARI 210/240–2003. ARI 340/360–2004.
	Water-Source HP ..	<135,000 Btu/h ...	EER and COP .....	May 13, 2013 ...	ISO Standard 13256–1 (1998).
Large Commercial Packaged Air-Conditioning and Heating Equipment.	Air-Cooled AC and HP.	≥135,000 Btu/h and <240,000 Btu/h.	EER and COP ..... EER .....	May 13, 2013 ... May 13, 2013 ...	ARI 340/360–2004. ARI 340/360–2004.
	Water-Cooled and Evaporatively-Cooled AC.	≥135,000 Btu/h and <240,000 Btu/h.			
Very Large Commercial Packaged Air-Conditioning and Heating Equipment.	Air-Cooled AC and HP.	≥240,000 Btu/h and <760,000 Btu/h.	EER and COP ..... EER .....	May 13, 2013 ... May 13, 2013 ...	ARI 340/360–2004. ARI 340/360–2004.
	Water-Cooled and Evaporatively-Cooled AC.	≥240,000 Btu/h and <760,000 Btu/h.			